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TO WIN THIS WAR THE AGRICULTURAL SITUATION

FEBRUARY 1942

A Brief Summary of Economic Conditions

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REVISED GOALS FOR FARM PRODUCTION IN 1942 substantially larger than the high record output called for in the goals set up last Autumn have been announced by Secretary Wickard. New policies with regard to loans, purchases, and sales of Government-held stocks also announced are designed to stimulate the production of maximum supplies of the commodities needed most in this war effort.

Secretary Wickard said: "The new 1942 goals call for the greatest production in the history of American agriculture. They call for putting every acre of land, every hour of labor, and every bit of farm machinery, fertilizer, and other supplies to the use which will best serve the Nation's wartime needs."

The Secretary added: "To American farmers, the Nation looks for enough production this year to feed and clothe our own people for their wartime task. To American farmers the United Nations look for indispensable supplies of food and fiber for their people and fighting forces.

"No one can foresee the exact size of the needs of our allies a year from now, but already we know they will be large, and I fear they will be larger than we realize at this time."

HARD TASK Continuing, the Secretary said: "Some of these goals will be very difficult to reach but we believe farmers can do it despite wartime shortages of farm labor, machinery, and production supplies. For wheat, cotton, and tobacco, the goals should not be exceeded. To do so would waste precious labor and supplies.

"For the other commodities, if farmers are able to exceed the goals and processors can handle the products, the Nation's interests would be served. In a word, we must produce to the limit in 1942 the things where shortages may occur under wartime conditions, because if the war is a long one, it will become increasingly more difficult to get production.

"* * * We call on farmers for redoubled effort. We are throwing all the resources of the Government agricultural programs into helping

them do their wartime job. Every program is being realigned to make it serve the single purpose of speeding production. * * * This is an all-out program difficult of attainment, but in the Nation-wide farm canvass recently completed, farmers have already indicated that they plan to equal or exceed the production called for in most of the goals announced in September.

"The Department of Agriculture, through the management of its programs, and through cooperation with the other agencies of Government whose work touches the farmers' problems of labor, supply, and price, will do its utmost to bring farmers all possible aid in getting the job done. Adequate farm production is vital to the Nation's existence, and the task of achieving it will command the energy and devotion of every farm family."

Revised Goals for 1942, Compared With Goals Announced Last September and the Corresponding Acreage, Production or Slaughter for 1941 ¹

Commodity	Unit	1941	September goal	Revised goal	Percent of 1941
Milk.....	Pounds.....	<i>Thousands of units</i> 115,770,000	<i>Thousands of units</i> 125,000,000	<i>Thousands of units</i> 125,000,000	108
Eggs.....	Dozens.....	3,728,000	4,000,000	4,200,000	113
Chickens.....	(Number (slaughter))	585,000	644,000	644,000	110
(Farm production only, does not include non-farm production or commercial broiler output. The September goal has been restated in line with the revised estimate of numbers for 1941)					
Hogs.....	Number (slaughter)	72,500	79,300	83,000	114
Corn.....	Acres.....	87,164	87.5 to 90,000	92.5 to 95,000	108
Cotton.....	Acres.....	23,250	22 to 24,000	25,000	108
(Within this acreage, a shift toward the production of longer staples will be encouraged in the areas where such cotton can be produced)					
Wheat.....	Acres.....	62,400	50 to 55,000	55,000	88
Tobacco:					
Flue-cured.....	Acres.....	732	762	843	115
Burley.....	Acres.....	357	358	383	107
Other domestic.....	Acres.....	261	247	272	104
Rice.....	Acres.....	1,245	1,200	1,320	106
Sugarcane.....	Acres.....	265	(No acreage restrictions in 1942)		
Sugar beets.....	Acres.....	775	(No acreage restrictions in 1942)		
Dry beans.....	Acres.....	2,304	Same as 1941	2,600	113
(Goal for dry beans provides for an increased acreage for white, pink and pinto beans, and about the same acreage as in 1941 for other varieties)					
Dry field peas.....	Acres.....	384		665	173
Canning peas.....	Cases.....	28,700		38,000	132
Canning tomatoes.....	Cases.....	31,430		40,000	127
Farm gardens.....	Number.....	4,800	About 5,760	About 5,760	120
Turpentine.....	Barrels.....	285	400	450	158
Rosin.....	Barrels.....	950	1,333	1,500	158
Cover crop seed.....	Acres.....	265	415	415	157
Soybeans.....	Acres.....	5,855	7,000	9,000	154
Flaxseed.....	Acres.....	3,367	Same as 1941	4,500	134
Peanuts.....	Acres.....	1,964	3,500	5,000	255
(Goal for peanuts is about 1,600,000 acres for nuts, or same as 1941, and 3,400,000 acres for oil)					

¹ Farm acreage production or slaughter, except for eggs, which includes nonfarm production estimated at 10 percent of farm.

FATS AND OILS

The revised production goals for 1942 place particular emphasis on the production of oil-bearing crops such as peanuts and soybeans so that our supplies of oils and fats may not be reduced too drastically, even though importations from the Far East are affected by the war. The goal for soybeans has been raised to 9 million acres; flaxseed, 4.5 million acres; peanuts, 5 million acres.

To encourage increased production of these oil-bearing crops, price and loan supports are to be employed, including a loan on flaxseed averaging at least \$2.10 per bushel, farm basis, with location and grade differentials; purchases of soybeans at \$1.60 a bushel, farm basis, for designated varieties of U. S. No. 2 Yellow, with location and grade differentials; and Government purchases of peanuts at \$82 a ton for U. S. No. 1 White Spanish Type for oil, delivered at the approved local receiving agency, with location and grade differentials. The purchase price for No. 1 Runners will be \$78 a ton and \$70 a ton for Class A Virginias.

Efforts will be made also to step up the production of lard, tallow and grease in packing plants.

(BAE says that a strong domestic demand for fats and oils and large exports of lard are in prospect for 1942. Production plus imports, however, may be 8 to 10 percent less than total requirements as a result of curtailment of imports from the Pacific. The deficiency can be covered by withdrawals from stocks, but a material increase in production in the United States will be needed this year if requirements are to be fully met in 1943. Prices of fats and oils probably will average higher in 1942 than in 1941, although it is likely that advances from recent levels will be limited by control measures.)

FEED GRAINS

The Secretary said "We are increasing the goals for corn by 5 million acres in order to have plenty of grain to continue the expansion in meat, dairy, and poultry production now well under way. In order to expand feed supplies in certain areas and to provide

Expected Acreages or Production Compared With Forecasts of Last September and the Accompanying Data for 1941

Commodity	Unit	1941	September estimate	January estimate	Percent of 1941
		<i>Thousands of units</i>	<i>Thousands of units</i>	<i>Thousands of units</i>	
Cattle and calves.....	Number ¹	25,905	28,000	28,000	108
(The marketing of cattle and calves equal to the estimated production is recommended in order to stabilize cattle numbers and increase the available supply of meat.)					
Sheep and lambs.....	Number ¹	22,630	22,900	22,900	101
Wool.....	Number of sheep shorn.	48,900	51,200	51,200	105
Turkeys.....	Number ¹	32,500		35,750	110
Oats.....	Acres	39,363	40,000	40,000	102
Barley.....	Acres	15,080	About 14,375	16,000	106
Rye.....	Acres	3,500	Same as 1941	3,550	101
Grain sorghum.....	Acres	9,397	9,375	10,000	106
All hay.....	Acres	71,893	74,000-75,000	72,000	100
Potatoes.....	Acres	2,793	About 3,060	About 3,060	110
Sweetpotatoes.....	Acres	843	About 850	About 850	101
Fresh vegetables:					
Commercial truck.....	Acres	1,680	About 1,785	About 1,840	110
Market gardens.....	Acres	1,065	About 1,075	About 1,075	101
Canning vegetables.....					
Fruit.....	Other than peas and tomatoes, about same as 1941. Total production about same as 1941. Fruit production cannot be easily increased, and emphasis should be on prevention of waste, and on better distribution and utilization as between fresh, dried, and canned.				
Hay crop seed.....	Acres	3,923		4,919	125
Lumber.....	Board feet.	32,500,000		33,600,000	103
Pulpwood.....	Cords	14,300		14,300	100

¹ Slaughter.

storage space for the new wheat crop, we also are making arrangements to release Government-owned wheat for feeding at prices comparable with corn."

There will be no marketing quotas on corn this year. Corn producers in the commercial corn area who wish to exceed their acreage allotments by planting up to their usual acreage in order to have more feed may do so without incurring reduction in other payments. This, it is expected, will be especially helpful in the dairy areas.

(Supplies of feed grains, high protein feeds, and hay are the largest in more than 20 years. But there are large numbers of livestock on farms, and the disappearance of feed grains is expected to be heavy during the current marketing year. The carryover of feed grains in 1942 will be smaller than in 1941. Prices of most feeds advanced over 25 percent during 1941; prices will be supported by a strong demand and the higher loan rate on 1941 corn during the current year.

(The Department of Agriculture announced in mid-January a plan for the offering of approximately 100 million bushels of wheat by the Commodity Credit Corporation for feed, to aid producers of livestock, dairy, and poultry products in attaining their production goals. The disposal of substantial quantities of wheat will aid also in making additional storage space available for the 1942 grain crops. The feed wheat sales price per bushel for cracked wheat delivered to the purchaser will be the lower of (1) the 1941 wheat loan value at point of delivery; or (2) the Commodity Credit sales price for corn per bushel at point of delivery. No sales of cracked wheat will be made at a price delivered of less than 90 cents per bushel except wheat produced and stored in those counties where the 1941 wheat loan value is below 90 cents. The Commodity Credit sales price for corn at point of delivery will be the announced sales price for No. 2 yellow corn, basis Chicago, in store, plus cost of freight and handling to point of delivery.

Sales of bulk wheat for feed will be made at a price slightly less than the price for cracked wheat. Producers may order the wheat through their dealers or direct from the regional offices of the Corporation.)

LIVESTOCK PRODUCTS The announcement of revised goals stated that farmers are increasing their hog and chicken numbers to such an extent that it will be possible to turn the additional feed supplies into larger quantities of meat, lard and eggs than was thought possible last autumn when the first 1942 production goals were announced.

The revised goals call for an increase of 4 million head in hogs marketed and 200 million dozen eggs over the September 1942 goals. The increased feed supplies also will help to attain the goals set for meats and for milk marketing and production, it was stated. The price-supporting program announced last Autumn for hogs, eggs, evaporated milk, dry skim milk, cheese, and chickens (excluding broilers) has been extended from Dec. 31, 1942, to June 30, 1943. Under this program prices are supported at a minimum of 85 percent of parity.

(Production of Milk and of most **Manufactured Dairy Products** is expected to be the largest on record in 1942. Even so, prices of dairy products probably will average higher in 1942 than in 1941, as result of increasing consumer incomes and prospective large exports under the Lend-Lease program. * * * Production of **Poultry Products** responded rapidly to favorable prices in 1941, and further material increases are expected this year. Prices received by farmers for poultry products are likely to average higher this year than last, because of the stronger average domestic demand and prospective Lend-Lease purchases.

(**Hog Production** and marketings will set a new high record in 1942. But the effect of these large supplies upon hog prices will be offset by a higher level of consumer demand this

year than last and by increased Government purchases of pork and lard. Cash farm income from hogs in 1942 is expected to be the largest in more than 20 years. * * * The movement of **Stocker and Feeder Cattle** into the Corn Belt during November and December was larger than a year earlier, but the increase did not offset the 20 percent decrease of the preceding 4 months. Fat-cattle prices have advanced sharply since early November.

(More **Lambs** probably will be fed during the 1941-42 feeding season than the record large number fed last year. It appears likely, too, that the 1942 lamb crop will be a little larger than the 1941 crop. Prices of lambs followed a moderate upward trend during 1941; the average price received by farmers for lambs during the year was nearly \$1.50 higher than in 1940.)

DRY BEANS The revised goals call for an increase in dry edible beans and dried peas. The goal for dry beans is 13 percent above 1941 acreage and for dry edible peas 73 percent more than in 1941. Prices will be supported at not less than \$4.75 per hundredweight for U. S. No. 1 Pea beans and Medium White, Great Northern, California Small White, Pink, and Pinto beans, and not less than \$5.25 per hundredweight for U. S. No. 1 dry peas of designated varieties, in bags f. o. b. cars at country shipping points. No. 2 grades will be supported at a slightly lower level.

(The 1941 record bean production probably will be exceeded in 1942, but prices probably will continue the upward trend in evidence through 1941, reflecting further improvement in demand.)

RICE All restrictions on rice acreage have been removed; and the goal has been raised to 1,320,000 acres. An additional 5 million bushels of rice above the goal announced last Autumn is called for. This will pro-

vide for a substantial increase in rice production in 1942. (Production of rice totaled 54 million bushels in 1941, compared with 54.4 million bushels in 1940, and with 45.7 million bushels average for the ten years 1930-39. Acreage harvested in 1941 totaled 1,245,000 acres, compared with 1,069,000 acres in 1940, and with 942,000 acres average during 1930-39.

(Prices of rice are at the highest level since 1925. Prices have advanced since last September, reflecting declining 1941 crop prospects. With a small carry-over in prospect at the beginning of the 1942 season and the likelihood of increased domestic and foreign requirements in 1942-43, an increase in 1942 seedings appears amply justified.)

CANNING CROPS Provision is made for an increase over 1941 of more than 18 million

cases in the pack of canned fruits and vegetables. The revised acreage goal for canning vegetable crops is expected to result in a pack 45 percent above the 1936-40 average, and a program has already been announced for obtaining an increase of more than one-fifth over the 1941 pack of canned peas and tomatoes. The indications are that production of vegetables for fresh use in 1942 will show an increase over 1941 production.

The canned fruits pack is expected to be 4 million cases larger than in 1941, provided enough tin is made available. Dried fruit production is expected to be 100 thousand tons larger than in 1941.

(**Truck crop production** in 1941 was smaller than in 1940, but higher prices resulted in a record income to producers. There will be a general tendency to increase truck crop acreage this year, both for the fresh market and for processing. Owing to the increase in demand, it is expected that prices received by producers generally, will average higher than in 1941.

(Total production of **Fruits** in the 1942-43 season—July-June—probably will be about the same as in the 1941-

42 season. Consumer purchasing power will average higher in 1942 than in 1941, and the demand situation for fruits and fruit products will be the most favorable in more than a decade.)

MISCELLANEOUS

The **Potato Goal** provides for increases in planted acreage over 1941 and a price supporting program is to be announced later. * * * Revised goals for all types of **Tobacco** except cigar wrapper are higher than those established in September. * * * It is expected that **Cotton** acreage will be about 1 million acres larger than was anticipated in September. To increase production of long-staple cotton, special premiums will be offered on staples of 1½" and over. * * * There will be no limitation on plantings of **Sugar Beets** and sugarcane in 1941.

(Opportunity for increased plantings of **White Potatoes** in 1942 is seen in the continuing increase in consumer demand for all foods. Prices of potatoes should average

higher than in 1941. * * * Increased plantings and production of **Sweetpotatoes** are in prospect for 1942 as a result of the rising level of food prices. * * * August 1, 1942, carry-over of **Cotton** may total 10 million

Index Numbers of Prices Received and Paid by Farmers

1910-14=100

Year and month	Prices received	Prices paid	Buying power of farm products ¹
1941			
January.....	104	123	85
February.....	103	123	84
March.....	103	124	83
April.....	110	124	89
May.....	112	125	90
June.....	118	128	92
July.....	125	130	97
August.....	131	133	98
September.....	139	136	102
October.....	139	139	100
November.....	135	141	96
December.....	143	143	100
1942			
January.....	149	146	102

¹ Ratio of prices received to prices paid.

Prices of Farm Products

[Estimates of average prices received by farmers at local farm markets based on reports to the Agricultural Marketing Service. Average of reports covering the United States weighted according to relative importance of district and States]

Product	5-year average, August 1909-July 1914	January average 1910-14	January 1941	December 1941	January 1942	Parity price January 1942
Cotton, lb.....cents..	12.4	12.22	9.45	16.23	16.93	18.10
Corn, bu.....do.....	64.2	58.9	56.0	66.9	72.7	93.7
Wheat, bu.....do.....	88.4	88.4	73.0	102.2	106.1	129.1
Hay, ton.....dollars..	11.87	11.87	7.78	9.43	10.15	17.33
Potatoes, bu.....cents..	69.7	64.2	54.6	82.7	97.6	¹ 103.6
Oats, bu.....do.....	39.9	39.0	33.3	45.2	50.2	58.3
Rice, bu.....do.....	81.3	-----	² 90.6	143.9	157.6	118.7
Peanuts, lb.....do.....	4.8	4.6	3.28	4.79	5.11	7.01
Tobacco:						
Fire-cured, types 21-24 lb.....do.....	³ 13.6	-----	9.7	14.8	13.7	12.4
Burley, types 31 lb.....do.....	⁴ 22.2	-----	15.5	29.1	29.3	26.0
Maryland, types 32 lb.....do.....	³ 22.9	-----	-----	25.0	24.0	20.8
Air-cured, dark, types 35-37 lb.....do.....	³ 11.2	-----	7.9	11.4	12.9	10.2
Cigar binder, types 51-55 lb.....do.....	³ 19.9	-----	14.1	21.9	14.5	18.1
Apples, bu.....dollars..	.96	1.00	.90	1.09	1.16	1.40
Beef cattle, cwt.....do.....	5.21	5.04	8.39	9.38	9.77	7.61
Hogs, cwt.....do.....	7.22	7.03	7.26	10.21	10.55	10.54
Chickens, lb.....cents..	11.4	10.8	13.7	15.8	17.0	16.6
Eggs, doz.....do.....	21.5	28.0	19.7	34.1	31.3	⁵ 29.8
Butterfat, lb.....do.....	26.3	29.2	31.1	36.0	36.3	⁴ 40.5
Wool, lb.....do.....	18.3	18.5	31.3	37.1	37.2	26.7
Veal calves, cwt.....dollars..	6.75	6.78	9.70	11.22	12.14	9.86
Lambs, cwt.....do.....	5.87	5.79	8.34	9.86	10.30	8.57

¹ Post-war base.

² Revised.

³ Base pricecrop years, 1934-38.

⁴ Base pricecrop years 1919-28.

⁵ Adjusted for seasonality.

bales, or about 2 million bales less than on that date last year.)

OUT-LOOK BAE says in outlook that prices received by farmers for farm products are expected to hold around parity in 1942, averaging neither greatly above nor greatly below that point. Prices received in relation to prices paid, interest, and taxes, are expected to average about the same as at the end of 1941, when the ratio was at 99 percent of parity. * * * Total **Production** of farm products in 1942 is

expected to be the largest on record, nevertheless prices are likely to rise in response to increased consumer incomes, increased consumer demand for food, and continued Government purchases for Lend-Lease shipment. Farm product prices are expected to average about 25 percent above 1941. * * * Increase in **Prices** and increase in **Production** of farm products are expected to yield farmers at least 2 billion dollars more **Cash Income** in 1942 than in 1941 when total was 11.6 billion dollars. **Costs of Production** also will rise.

Farm Machinery in 1942

ALLOCATIONS of metals by the Office of Production Management (now under the War Production Board) have made possible a 50-percent increase in the manufacture of farm machinery repair parts above the output in 1940. OPM announced that in drafting its allocations program the view was taken after consultation with the Agriculture Department, that adequate repair of existing machinery is the first step in the attainment of the 1942 farm production goals.

As for new farm machinery, the allocations of metals range from zero in the case of portable corn cribs to an increase of 251 percent in the manufacture of wooden stock tanks. Average for all machinery combined is 83 percent of the production in 1940. Allocations provide for increased production of dairy machinery and equipment, electric brooders, garden planters and cultivators, 1-row corn pickers, peanut pickers and other implements needed in the Food-for-Victory production campaign.

ALLOCATIONS for increased production of planting, seeding and fertilizing machinery include 2-row-tractor drawn or mounted combination corn and cotton planters; 1- and 2-row, horse or tractor drawn trans-

planter; 1-row horse or tractor drawn listers with planting attachments, and 2-wheel tractor drawn manure spreaders. Machinery to be produced in the same quantity as in 1940 include 2-row, tractor drawn or mounted corn planters, and hand broadcast seeders. Decreases include other types of corn planters, combination corn and cotton planters, potato planters, grain drills, fertilizing distributors, and lime spreaders.

Reductions are provided for practically all types of plows, harrows, rollers, pulverizers and stalk cutters, cultivators and weeders, and harvesting machinery other than rice binders, 1-row pull and mounted type corn pickers, potato diggers, and pea and bean harvesters. Decreases are provided for practically all haying machinery except windrow pick-up hay press combines. Provision is made for equal or increased production of pea and bean threshers, peanut pickers, food grinders and crushers, and farm size cane mills.

The orders provide for reduced production of all types of tractors except garden tractors. The production of all types of engines will be reduced this year. Provision is made for decreased production of farm wagons, trucks, and trailers. All types of

spraying outfits except hand sprayers will be in smaller supply. Fewer farm elevators will be manufactured, but more deep well jet pumps. In the case of barn and barnyard equipment, provision is made for equal or increased production of overhead feed and litter carriers, feed trucks, hay carriers, hay forks, tank heaters, and wooden stock tanks.

INCREASES in dairy machinery and equipment include milking machines, cream separators, milk coolers, and butter-making equipment. The production of incubators, heated battery brooders, poultry-growing batteries, laying batteries, poultry feeders, and poultry waterers will be reduced. . . . OPM announced that a schedule of permissible production on every type of farm equipment—ranging from windmills to wheelbarrows—has been sent to all machinery manufacturers and to War Boards of the Department of Agriculture. There are about 1,200 manufacturers of farm machinery in the United States.

Farmers have been concerned with the difficulty blacksmiths and rural repair shops had for a time last autumn in getting welding rod, bar iron, and

other metals. In December, OPM set up a special category to make uncoated welding rod, bale ties, nails and wire rope available to warehouses up to 100 percent of the amounts delivered in the same quarter of 1940, and wire, woven fence wire, poultry netting, stucco netting, barbed wire, staples, fence posts and galvanized sheet and strip, up to 70 percent.

Officials point out there are some pieces of farm equipment which are not covered by the Farm Machinery Order, since such equipment is not strictly agricultural, and, indeed, may have military uses. Included in this category are crawler-type tractors, and heavy duty electric motors. To obtain such equipment, farmers must get OPM priority. The whole priority system, as it affects agriculture is designed to enable farmers to get supplies without filling out forms. Priorities in all but the special cases of crawler-type tractors, and heavy-duty electric motors, apply only to manufacturers or warehouses—not farmers.

Department of Agriculture officials have reported that production of farm machinery reached new high levels in the last 2 years; that generally speaking there is a heavy reserve of usable implements on farms.

HEMP, COTTON, FLAX

Several years ago the Bureau of Plant Industry began work in cooperation with a commercial concern to establish plantings of manila hemp in Central America. The planting was enlarged in 1940 and further increases are planned. Manila hemp is used widely for ropes on farms, in industry, and especially in the Navy. It has been imported from the Philippines.

* * *

Sea Island cotton has the longest and strongest fibers of any type, and has been used in the manufacture of balloons and parachute cloths, gas cells for dirigibles, and airplane wing coverings. New strains of Sea Island coming into production in 1942 have

even longer and finer fiber, which makes them more useful in meeting war needs. The SxP variety of American-Egyptian cotton developed by the Bureau of Plant Industry and now in large scale production in the Southwest, is being used for making balloon cloth and inflatable pontoons for seaplanes.

* * *

Fiber flax is now a strategic fiber, Cooperative research in Oregon has yielded improved methods of culture, harvesting and handling flax. Two new varieties—Martin and Highboll—were developed by plant breeders. At present prices these varieties return about \$25 an acre more than those formerly grown.—F. G.

TO WIN THIS WAR

*Do farmers have the plant capacity, the man and machine power, the incentives to turn out the great volume of farm products required in 1942? The answers seem plain as we look at the great expanse of our agriculture * * * at the more than 1 billion acres of land in farms * * * at the millions of people working these farms to produce food, feed, and fibers in abundance for us and our allies * * * at the vast processing and food-distribution machinery in this country.*

No other nation seems to be so well equipped to feed its own people and to take on the job of feeding millions of its allies. Given the physical capacity to produce, the incentive lies in the determination to defeat the forces of aggression. Prices of farm products are the highest in a decade or more. Costs of production also are rising. Cash farm income this year will be a fairer share of the total national income than in many years past.—Ed.

I

PLANT CAPACITY Our agricultural plant, as reflected in acres of cropland and numbers of livestock, is in better position

today in most respects than it was in World War I. Many developments in agriculture during the past quarter century have given us a physical agricultural capacity well fitted to meet the unusual demands for more food and farm commodities. The land itself is in unusually good condition following years of intensive conservation practices. Farm buildings and farm equipment are in fairly good state of repair. Purchases of farm machinery in each of the past two years have been among the largest on record.

The annual average acreage of all cropland harvested, including land in farm gardens and in nonbearing fruit and nut trees, has been moderately larger in recent years than in the pre-World War I period 1910-14, but smaller than in a number of intervening years. The largest acreage in any year from 1910 to 1919 was the 365 million acres reported in 1919. This figure was exceeded by the 1928-32 average, and by the acreage in three separate years since 1929—in 1930, 1931, and 1932—although con-

trol programs and drought reduced the acreage harvested in many years of the past decade. Acreage harvested in 1942 will probably be the largest since 1932.

NOT only is the cropland harvested now moderately larger than in pre-World War I, but the needs for certain uses of cropland have decreased. This has released land for other uses. The area of land required to feed workstock has declined from 100 million acres to about 50 million acres—from more than 30 percent of all cropland harvested in 1910 to less than 15 percent of all cropland harvested in 1941. During the war years 1917 and 1918 an average of 96.5 million acres was required to produce feed for workstock. Now about half this acreage is so required; in addition, a considerable acreage of pasture land, formerly used to supply feed for horses and mules, has since been made available for other types of livestock. The acreage required for the production of principal exports in the years immediately preceding the war was about 10 million below the 1910-14 average.

Cropland supplying food, fiber, and tobacco for domestic consumption has increased at about the same rate as the population of the United States.

The per capita acreage figure has remained fairly constant, ranging from 1.8 acres to 2.2 acres in the years from 1910 to 1940.

The expansion in total crop acreage has been accompanied by a moderate increase in yield per acre of most of the principal crops. The increase in yields from 1910-14 to 1937-41 has been fairly large for Irish potatoes, cotton, tobacco, and sugar beets; small increases have been recorded also for corn, wheat, barley, oats, flax, and all tame hay. The good weather of recent years, programs of soil conservation and improvement, and the adoption of improved varieties and production techniques have been of importance in increasing yields. In the case of certain crops, quality as well as yield has been increased. This is especially true of forage crops where soil-improvement programs have resulted in better pastures and a shift to alfalfa and other high-protein hay crops.

Increases in crop production in recent years have been largely in the commodities which are now needed in even greater abundance in fulfillment of the Food-for-Victory campaign. Average production of truck crops in the period 1937-41 was more than three times the production in 1910-14, and the annual production of fruits and nuts was approximately 70 percent larger. The production of grains is moderately higher, while the volume

of cotton produced has been somewhat smaller in recent years.

THE situation as to livestock and livestock products is similar to that as to crops. The annual average number of milk cows, other cattle, and sheep in the period 1937-41 was well above the 1910-14 average. The number of workstock is smaller, and the number of hogs averaged about 3 million head less in 1937-41 than in 1910-14. Numbers of all meat animals have increased greatly since the drought years of the middle 1930's; in 1942 it is expected that marketings of hogs, cattle and calves, and sheep, will be the largest on record. The goal of 83 million hogs for slaughter, for example, is more than 3 percent above the previous high, and preliminary indications are that the goal will be exceeded.

Yields of livestock products per producing unit have tended to increase during the last quarter century. Egg production per layer is up 17 percent over 1910-14, and milk production per cow in the period 1937-41 was higher than that in any previous 5-year period.

The total volume of production of livestock and livestock products for sale and for consumption on farms averaged considerably larger during 1937-41 than in 1910-14, the increases being meat: animals, about 20 per-

Table 1.—1910-14, 1917-18, 1928-32, and 1937-41 Averages for Specified Items

Item	Unit	1910-14	1917-18	1928-32	1937-41
Cropland harvested ¹	Million acres.....	333	357	367	345
Yield per acre:					
Corn, all.....	Bushels.....	26.0	25.0	24.7	29.0
Wheat.....	Bushels.....	14.3	14.0	14.4	14.6
Tame hay.....	Ton.....	1.2	1.3	1.3	1.4
Irish Potatoes.....	Bushels.....	100	101	112	126
Cotton.....	Pounds.....	200	166	174	246
Tobacco.....	Pounds.....	816	830	760	934
Agricultural production ²	(1935-39=100).....	83.3	88.3	99.8	107.6
Number of animals:					
Milk cows.....	Thousands.....	19,558	21,374	23,284	25,246
All cattle.....	Thousands.....	57,589	72,010	61,200	68,028
Sheep.....	Thousands.....	47,286	39,275	50,482	53,877
Hogs.....	Thousands.....	53,086	60,254	58,151	49,894
Eggs per layer.....	86	86	94	101

¹ Includes acreages of all crops harvested, farm gardens, and all fruits and tree nuts.

² Production for sale and for consumption in the farm home.

cent; poultry products, 39 percent; dairy products, 55 percent.

THESE and other developments as to crops and livestock resulted in a total production of agricultural commodities for sale and for use in the farm home considerably larger in 1937-41 than in 1910-14. A further increase is in prospect this year. Average production in the period 1937-41 was 29 percent above the 1910-14 average, and 22 percent above the war years 1917 and 1918. Total production in 1941 was more than 3 percent above the previous

high mark set in 1940, and the attainment of the goals in 1942 will mean an increase of approximately 5 percent over 1941. In each of the last 5 years, total production was above the 1935-39 average.

A large part of the increase in production of agricultural products has come well within the framework of our conservation aims. The aims for 1942 production can be met without irreparable damage to the farm plant. Should future developments require it, several million more acres could be brought into production.

W. F. FINNER.

II

FARM POWER The United States has entered World War II better equipped in many ways for large-scale efficient agricultural production than at any time during the last 30 years. Total agricultural production for sale and use in the farm home even with fewer workers on farms is about one-third larger than it was during 1910-14 and nearly one-fifth larger than during World War I.

With fewer agricultural workers and greater total agricultural production, increased production per worker has been even more pronounced, and now averages about 50 percent greater than in the 1910-14 period and 30 percent more than during World War I. With farm workers going into the armed services and into industry, and with agricultural production on the increase, production per worker will be increased still more, although this will mean longer work hours on the farm and probably a better distribution of our available agricultural workers.

INCREASED production per worker of agricultural products for sale or use in the farm home has been brought about largely by two well-defined and important tendencies: (1) A tremendous increase in farm

mechanization; (2) a decrease in farm workstock.

(1) In 1940 there were 1,545,000 tractors on farms compared with only 246,000 in 1920. During the same 20 years, farm motor-trucks increased from 139,000 to 1,047,000, and automobiles on farms from 2,146,000 to 4,144,000 (Table 1). Currently, it is estimated there are about 1,800,000 tractors on farms, 1,050,000 motor-trucks, and 4,200,000 automobiles—all constituting the greatest aggregation of mechanical farm power in the Nation's history.

Table 1.—Trends in Farm Employment and Production, Crop Acres, Workstock, and Motor Equipment, on Farms, 1910-40

Item	1910	1920	1930	1940
Employment in agriculture ¹	100	94	93	87
Total production for sale and use in the home ¹	100	108	120	132
Production per worker, for sale and use in the home ¹	100	115	129	152
Acres of crops harvested (millions)	329	360	370	343
Number of horses and mules on farms, Jan. 1 (millions)	24	26	19	15
Tractors on farms, Jan. 1 (thousands)	1	246	920	1,545
Trucks on farms, Jan. 1 (thousands)	-----	139	900	1,047
Automobiles on farms, Jan. 1 (thousands)	50	2,146	4,135	4,144

¹ 1910 figures, pre-war years, 1910-14=100; 1920 is average for war years, 1917-20; 1930 is average for 1923-32; 1940 is average for 1939-41.

The American farmer of today has a larger power unit, his implements and machines are larger, and the rate of travel greater than was the case 20 years ago. Equipment has steadily increased the efficiency of labor, as multiple-row implements and many useful gadgets have come with the tractor. The two-row corn picker, improved planters, small combines (the combine itself was not widely used before World War 1), windrow pick-up balers, beet lifters, and many other mechanical aids have found a place in American agriculture. Considerably less labor is now used for producing most of our agricultural crops than was used during World War No. 1.

(2) During the last 20 years there has been a decrease of about 11 million head of horses and mules on farms, and 1.5 million head in cities. This decrease has made possible the release for other uses of more than 40 million acres of land formerly used to produce feed for workstock. In recent years, more land has been seeded to pastures, and total crop acres harvested in 1940 was less by about 17 million than in 1920. Even with this decrease in harvested cropland agricultural production for sale and home use has increased substantially.

Thus, mainly by a switch from horses and mules to the use of tractors, trucks, and automobiles, along with other labor-saving farm machinery, farm labor is no longer needed to produce 40 million acres of crops previously used for the maintenance of workstock used largely for farm power. One effect of this change has been to increase substantially the output per worker of things sold and used in the home, simply because the labor formerly spent in producing feed for work-

stock now is used to produce products for sale or home use. What has really happened is that the farmers now sell a larger proportion of their production, and buy more equipment, gasoline, and oil, instead of using their labor to produce feed for workstock.

THE present farm plant is well equipped for heavy agricultural production. It can continue for some years to produce large supplies if farm machines and labor are not unduly depleted. With restrictions now placed upon the manufacture of farm machinery it is becoming highly desirable for farmers to extend the working life of machines by proper and timely repairs, and fully to coordinate the use of machinery and labor supplies available in the neighborhood. Indications of a farm labor problem are apparent. These will become more serious as the war continues and will have to be met wisely if our high-powered agricultural plant is to produce larger and larger supplies of food.

Production will need to be expanded on our better producing lands. Even in the poorer soil areas some additional production can be got by harder work and by better use of available resources. Since the real pinch will come in producing areas where peak labor loads are heavy, especially where hand operations are important, arrangements must be made to distribute better the labor supply available during the seasons of heavy work loads. Longer hours and more farm work by school children and women may be necessary as production needs increase and regular farm labor sources diminish.

M. R. COOPER
A. P. BRODELL

III

INCEN- TIVE All production groups in the Nation are harnessing their resources to maximize production for a single goal—victory. Never before has there been

such an opportunity for each of the production groups—the farmer, the laborer, the industrialist—to give, and to gain or lose so much. Each group has a specific job and for the most part its task cannot be performed by another.

The farmer's position today is much different from that prior to and during World War I. Excepting noteworthy efforts by the newly formed Extension Service, agricultural programs in World War I were insignificant and ineffective compared with those in operation today. Government policy in pre-World War I days fostered education and research aimed at more efficient production. Consideration had also been given to cheaper transportation, better credit facilities, and cooperative marketing.

Since 1933 the Federal Government has been actively concerned with maintaining an agricultural industry that will be ready to meet at reasonable prices all the Nation's needs for food and fiber. "Reasonable prices" have meant that farmers in general will have as much opportunity to live and prosper as any other segment of our population. Farmers cooperating in the Food-for-Victory campaign do so with the confidence that whatever may occur, their welfare will be as well protected as that of workers in industry.

WE have much to learn from World War I, and it may be well to review briefly the hectic farm situation of that time. Prices of raw materials including farm products always rise first in any general upswing. During World War I, the farmer, stimulated by comparatively high prices, pushed to the limit the production of every product he could advantageously grow. Wheat was the outstanding example.

The United States since its origin had been an exporter of wheat. Early in the war, the Russian wheat crop was shut off from the Allies by the blockade of the Black Sea and the Baltic. The Argentine and Australian crops failed and India restricted exports because of a short crop. The responsibility of supplying foodstuffs, particularly wheat, was thus left to the United States—then a debtor nation.

The slogan was "Food Will Win the War," but carefully planned programs

to direct resources into the production of those commodities needed most were hardly known. More sugar and wheat were needed, and wheat, the crop which is, perhaps, adapted to a wider range of conditions than any other major crop, was increased from approximately 47 million acres in 1909-13 to 74 million acres in 1919. The price of wheat rose from 97 cents per bushel in 1914 to 216 cents in 1919. By an executive order on June 21, 1918, the price of wheat was set at \$2.26 for No. 1 Northern Spring and its equivalent at Chicago. The war was over by 1919 but the urgent call for wheat had not relaxed and the price of \$2.26 was still in effect when wheat was sown that year.

Other grains and farm products were expanded, though not to the same extent as wheat. Cotton and most tobaccos were stimulated little by the war. Exports of pork and lard to the United Kingdom had averaged 450 million pounds in the 5 pre-war years as compared to more than 1 billion pounds in 1918. Beef exports increased from 150 million pounds in 1914 to 954 million in 1918.

CASH income from farm marketings rose from 5.9 billion dollars in 1910-14 to 14.4 billion in 1919, although the actual volume of production changed comparatively little. On the upswing, prices of raw materials rise sooner and faster than costs. The index of prices farmers receive for products sold averaged 213 in 1919 compared to an index of 192 in the same year for prices paid. Both index numbers stood at 100 in 1910-14. The index of net farm income of typical wheat producers in the Southern Great Plains area and typical Corn Belt farmers averaged about 385 and 265 respectively in 1919, each based on 1910-14 as 100. The index of purchasing power of farm incomes of these producers averaged about 165 for wheat farmers and 145 for Corn Belt farmers in 1919. Farmers were in a fine position, so they thought, to increase production still further.

Few, if any, methods of forward planning were available in those years. The close of the war and the reconstruction days of Europe left the farmers in this country with heavy debt loads, high costs, low prices, and a dwindling market.

The index of prices received by farmers during the years 1938-40 was 95 percent of the 1910-14 base. This index had risen to approximately 139 by the last quarter of 1941, whereas the index of prices farmers pay rose from an average of 122 in 1938-40 to approximately 139 in the last quarter of 1941. Prices again are rising faster than costs. In 1941 the index of net farm incomes of typical wheat producers in the winter wheat area and Corn Belt farmers (after consideration has been given to change in size of farms) were approximately 137 percent and 124 percent, respectively, of the 1910-14 averages. So far—the farm income and price situation has closely paralleled that of 25 years ago.

FARMERS have a very important and definite part in the present war.

The public and the farmer are interested in seeing a planned production so coordinated that there will not be an overabundance of some commodities while shortages of necessary products exist. There is much evidence that agricultural resources will be used more wisely than in 1914-19 and that farmers will not be left "high and dry" as they were after World War I. Essential programs and credit facilities are at the farmers' disposal, and priorities have been already given for certain essential farm materials together with some deferments from active military services of farm laborers.

In sharp contrast with our first World War experience, farmers and the Government are now working together to get the most from our resources with the least confusion and waste and with an eye to the future. A more mechanized, more efficient, larger farm plant is drafting itself for the war effort and, from all indications, will advance according to plan in its Food-for-victory campaign.

W. D. GOODSSELL

The Wealth of the Netherlands Indies

THE Netherlands Indies, in the Equatorial region of southeastern Asia, the most important colonial possession of Holland, is one of the world's largest and richest colonial empires. The main source of its wealth lies in the production and export of such tropical products as rubber, sugar, tea, coffee, copra, palm-oil, cinchona, tobacco, minerals such as oil and tin, and many other commodities. Until very recently the Indies concentrated almost exclusively upon the production of raw materials and foodstuffs for export, as well as of certain foodstuffs (chiefly rice) for local consumption; manufacturing was confined chiefly to the preliminary processing of these agricultural products.

The Netherlands Indies consists of numerous islands having a total

area of 735,000 square miles, or approximately one-quarter of the area of continental United States. The islands stretch for a distance approximately 3,200 miles east and west astride the Equator, from the Indian Ocean on the west far into the Pacific on the east. Java is the most important island of the Archipelago. Sumatra, Borneo, Celebes, Dutch New Guinea and Moluccas, and numerous others are known as the Outer Islands. Java is only about the size of the State of New York (7 percent of the area of the Indies) but supports a population of 48 million; the population of all the other islands is estimated at 22 million.

Java is intensively cultivated from sea level to about 4,000 or more feet. Such is not the case in the Outer Islands, even though the east coast of

Sumatra may well serve as a model of large-scale tropical agriculture. For the most part, however, vast areas of Sumatra, Borneo, New Guinea and of other islands, are marshy lowlands covered with swamp forests and infertile uplands. The fertility of Java and sections of Sumatra, Bali, and Celebes is caused by the prevalence of volcanic soils, warm climate, and abundant rainfall.

THE agricultural economy of the Netherlands Indies falls into two sharply distinguished types: Small-scale native farming and large-scale European plantation farming. Practically the entire output of the plantations is intended for export; that of the native farms is for both domestic consumption and export. The area under native agriculture in Java and Madura (figures for native agriculture in the Outer Islands are not available) is around 20 million acres, while that of plantation agriculture is 2.7 million acres in Java and 3.5 million acres in the Outer Islands.

It is the plantation agriculture with an area of over 6 million acres and a capital investment estimated at 900 million dollars that has made the Netherlands Indies famous the world over. It must also be noted, however, that approximately 45 percent of the agricultural exports of the islands are produced by the natives on their holdings, averaging not more than 2.5 acres per farm. The average planted area per plantation is 1,200 acres. The application of science has characterized the growth of the plantation industry from its very inception. Herein lies one of the principal causes underlying the successful development of the agricultural resources of the Indies.

RUBBER is the most important crop in the Indies, being grown in both Java and the Outer Islands, but chiefly in Sumatra on 1,200 plantations and 800,000 small native holdings. Of the reckless, haphazard, "get-rich-quick" schemes by which wild rubber

production was marked in the late nineties and the first decade of the present century in some countries, there was none in the Netherlands Indies. Science, careful planning, good management, and ample financial resources, have raised the industry to its present eminent position. In 1929 the capital invested in the rubber industry was estimated at 253 million dollars, which sum has risen since then. The total area under rubber (plantation and native) is about 3 million acres. The output of rubber in 1939 was 372,000 metric tons, but under the impact of the tremendous demand for rubber since the outbreak of World War II, the output was increased to 537,000 tons in 1940 (3,000 tons short of that of British Malaya), or 38.6 percent of the total world supply. In the same year the rubber from the Netherlands Indies supplied 35 percent of the requirements of the United States.

Sugarcane is one of the oldest and best known crops of the Indies and, until comparatively recently, was the most important export crop. The loss of export markets and low prices in the 1930's adversely affected the industry. Yet in 1940 the 100 sugar plantations operating in the Indies produced 1.9 million short tons, and exported 889,000 short tons. This is only a third of the exports of the late 1920's, but sizable enough to remain an important element in the economy of the Indies.

Tea and coffee—particularly tea—add considerably to the wealth of the Indies. Coffee is the seventh most important export crop and represents about 5 percent of total volume of coffee entering international trade. The islands are the third largest producers and exporters of tea. In the past decade exports ranged from 142 million to 174 million pounds, thereby accounting for almost one-fifth of all the tea offered on world markets.

THE Netherlands Indies for many years has ranked among the leading tobacco producing and exporting

countries of the world. The quality of its plantation tobacco is perhaps the finest in the world. As a producer, the Indies ranks next in importance after the United States, British India, China, and Soviet Russia. As a tobacco exporting country the islands are outstripped only by the United States. The exports of 1940 were 61 million pounds, as against 75 million pounds the previous year and annual 106 million pounds during 1934-38. The Netherlands Indies is capable of doubling or tripling the exports of tobacco, should the economic and political conditions favor such an expansion.

Even more prominent is the position of the Indies as a producer of copra and palm-oil. By virtue of an output of copra estimated at 800,000 tons, the Netherlands Indies may be considered the world's largest producer of this commodity. Great quantities of copra are consumed domestically, but the surplus is large enough to rank the Indies next to the Philippines as an exporter of coconut products. During the 5-year period 1935-39 the exports represented 29 percent of the world export trade of such products. The Netherlands Indies is second only to Africa as a producer of palm-oil. The more than half a billion pounds of oil and 100 million pounds of kernel exported in 1939 made up one-fourth of the world exports of similar products.

THE outstanding fiber produced in the Netherlands Indies is kapok, used, among other things, in the manufacture of life preservers. The output totals 25,000 short tons a year and the exports constitute nearly two-thirds of all kapok entering international trade. Ninety percent of the world production of cinchona, from which quinine is extracted, is produced in the Netherlands Indies. During the past decade production of cinchona bark varied from 17 to 26 million pounds, and exports from 13 to 24 million pounds. The Netherlands Indies is a principal source of a variety of spices—nutmeg,

citronella, gambier, cloves, cinnamon and pepper. Pepper is most important, its share in world export trade amounting to approximately 80 percent.

Petroleum and tin are the two minerals produced in the Netherlands Indies in large quantities. The total output of oil in the Far East, estimated at about 70 million barrels, is less than 4 percent of world production, but the East Indies alone produces about 60 million barrels. The island of Sumatra accounts for about two-thirds of the output, and the remainder comes from Tarakan and Baenjoie fields of eastern Borneo. As a tin producer, the Netherlands Indies is second largest. In 1940 the output amounted to 45,000 tons, or about 19 percent of the world total. The entire output of this strategically vital raw material comes from the islands of Banka, Billitan, and Singkept, which lie off the east coast of Sumatra.

THE Netherlands Indies lives by its foreign trade, particularly its export trade, which in the predepression years (1925-29) averaged 643 millions of dollars. The role of the United States in the foreign trade of the East Indies is especially worth noting. In 1939 the United States became the principal importer of East Indies products, taking in that year one-fifth of its exports and as much as one-third in 1940. Certain agricultural products are imported by the United States almost exclusively from the East Indies: In 1940 about 35 percent of its rubber imports, 96 percent of its cinchona bark, 96 percent of pepper, 88 percent of kapok, 94 percent of tapioca, 80 percent of palm-oil, 90 percent of all United States imports of leaf used for cigar wrappers, 38 percent of its sisal, and 10 percent of tin imports.

These commodities are even more important in the export trade of the Netherlands Indies. In 1940 the Indies shipped to the United States 61 percent of all its rubber exports, 25 of its tobacco, 63 of its tin, 39 of its kapok, 52 of its tapioca, 60 of its palm-

oil, 84 of its sisal, and 32 percent of its cinchona exports.

COLONIAL possessions are often referred to as the "white man's burden." For the Netherlands, however, this burden has not been difficult to carry. In the process it has become one of the world's leading colonial powers—not so much because 8.5 million Dutch rule a colonial empire of 70 million people—but because the Netherlands Indies, largely through development of its economic resources by the Dutch, has become one of the world's richest and best-paying colonial possessions.

Nor was the economic welfare of the natives neglected. One of the cardinal policies of the Dutch Government has been that the native food supply must be as ample as possible. In this they have succeeded. One cannot but contrast the situation with that in Chosen, under the Japanese, where large numbers of farmers are subject to "spring-hunger" year in and year out. But the outstanding achievement of the Dutch is that it prevented the natives from bartering

away their land. Hardly any other colonial power has insisted that this, the natives' only capital, must be preserved for them. Considering the eagerness with which European entrepreneurs and Chinese and Arab money lenders wished to obtain fertile native land, the Dutch achievement in this respect cannot be overestimated. The virtual absence of tenancy in the islands is a unique phenomenon for which the Dutch colonial land legislation is largely responsible.

The Dutch colonial government directly, and the plantations indirectly, have stimulated the cultivation of export crops by natives. Recently the natives have been furnishing 40 to 45 percent of the total value of all export crops of the East Indies. It may be stated, then, that the natives, particularly of the Outer Islands, are not only taking an active part, and profiting, in the economic development of the islands, but may ultimately outstrip the plantations as a source of exports of tropical commodities.

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Peanuts for Oil in 1942

DOMESTIC requirements of practically all fats and oils have increased as a result of war conditions. At the same time, imports of important supplies of these essentials have been sharply curtailed because of difficulties in shipping. Increases sought in the production of peanut oil as well as in other vegetable oils and fats are designed to provide this country with adequate supplies.

In the present war, the peanut industry finds itself in a strong position to supply large quantities of oil to meet the greatly expanded needs. This was not the case in World War I. Before that war started, only a small quantity of peanut oil was produced in this country. During World War I, how-

ever, the unprecedented demand for vegetable oils to supply glycerin for munitions purposes and to meet the needs for table and cooking fats and oils greatly stimulated the crushing of peanuts into oil. In 1918, peanut oil production totaled nearly 96 million pounds from around 160 thousand tons of peanuts crushed. The next year saw a slight drop in peanut oil production—to approximately 87.6 million pounds from about 150 thousand tons of peanuts crushed.

Peanut oil production continued to decline until in the early 1930's shelled peanuts sold enough higher in relation to the price for peanut oil, so that it was hardly profitable to crush farmers' stock that was suitable for shelling.

Therefore, the bulk of the peanuts crushed for oil consisted of off-grade broken, or inferior quality farmers' stock. Out of an average approximating 444 thousand tons of peanuts harvested annually during the 1928-32 period, only about 7 thousand tons were crushed for oil. A low point was reached in 1933 when, out of 410 thousand tons harvested, only about 1 thousand tons were crushed for oil.

IN 1934, the Department of Agriculture put into effect a program for the peanut industry designed to improve marketing conditions, by facilitating the diversion of surplus peanuts from shelling to oil crushing purposes. This program, in a form modified through several years of experience, is now administered by the Surplus Marketing Administration. Its operation has been an important factor in the expansion of the peanut oil industry in the United States. From the standpoint of peanut growers, the diversion program has meant improved marketing conditions and a substantial increase in total income from the peanut crop.

From 1934 through 1939, an average of 593 thousand tons of peanuts was harvested, and out of this total 82 thousand tons were crushed for oil. In recent years, practically all of the peanuts crushed for oil were assisted in moving into the oil outlet by Federal payments made under the diversion program. So far, the record year for crushing peanuts into oil was in 1940 when, out of a total of 875 thousand tons of peanuts harvested, approximately 284 thousand tons were crushed. In 1941, out of a crop of approximately 779 thousand tons, it is estimated that about 60 thousand tons will have been crushed for oil. While until a few years ago less than 8 percent of the peanut crop was crushed for oil, increased peanut production resulting partly from the diversion program of the Surplus Marketing Administration helped bring this in 1940 up to around 35 percent.

The need for increased production of oil-bearing crops such as peanuts and soybeans is emphasized in the revised farm production goals announced by Secretary Wickard last month. The goal for soybeans has been raised to 9 million acres. This compares with less than 6 million acres harvested last year. The goal for peanuts has been raised to 5 million acres, and this compares with less than 2 million acres last year. Of the 5 million acreage goal for 1942, about 3.4 million acres would be for the production of oil, and 1.6 million acres for nuts. Great dependence was put upon peanuts for their content of vegetable oil during World War I; now, in World War II, the producers are being asked again to increase greatly the acreage of peanuts for oil.—Ed.

OPERATION of the diversion program has been accompanied by a material increase in the annual farm value of peanuts. During the 1928-32 period, the harvested crop had an average farm value of \$28,125,000. In the diversion program period from 1934 through 1939, the farm value of peanuts averaged \$39,813,000. Without including 1936, a year when it was not necessary to operate the diversion program, Federal payments for diverting peanuts to oil averaged under \$1,500,000 annually during the period through 1939. In 1940, the farm value of peanuts exceeded \$57,000,000, and diversion payments on the record quantity of peanuts diverted to oil totaled slightly under \$8,000,000.

The main use for peanut oil has been in the manufacture of shortening and other food products. About 90 percent of the oil has been consumed in these forms. Cottonseed, soybean corn, and peanut oils are somewhat similar chemically and are highly interchangeable in use.

PEANUT production is commercially important in a dozen southeastern and southwestern States. Prin-

cipal producing States are Georgia, North Carolina, Alabama, Texas, and Virginia. For the most part both shelling and crushing facilities are readily available. Cottonseed crushing facilities in particular have been converted in recent years to handle the greater volume of peanuts moving into oil under the diversion program. These mills take on the job of crushing peanuts after finishing with cottonseed. Most of the crushing is done with hydraulic presses. Equipment to crush peanuts is similar to that used for crushing cottonseed for oil. The main change that has to be made is in the set of the knives of the cottonseed disk huller. To break the hulls of the peanuts the knives have to be set farther apart than when used for cottonseed.

After the hulls and the meats are broken, the peanuts are conveyed through a shaker screen which separates the meats from the hulls. Aided by fans and a suction pipe or cyclone separator, the hulls are taken out. The broken meats are then run through rollers. This makes possible a more complete expression of oil. The crushed peanuts then go to the cookers—steam-jacketed kettles in which they are cooked under pressure for a half hour or more further to rupture the oil cells. After the cooking process, the crushed peanuts are formed into cakes and are then ready for the hydraulic press. Expression takes place under pressure, which is gradually brought up to 4,000 or 4,500 pounds, and the oil runs down the sides of the press into a drain. Pressing and draining the oil require about a half hour.

The yellow oil is pumped to a storage tank outside the mill to await further processing and refining. It may first be filtered to remove particles of meal, or the particles may be left to settle in the tank. As needed for shipment, the oil is pumped from the storage tank into tank cars. The yield of oil varies with the season and the variety of peanuts. In general, however, it is esti-

mated that a ton of farmers' stock peanuts will produce an average of about 580 pounds of oil and around 875 pounds of peanut meal, which is the residue from crushing and is used for livestock feed. The remainder represents manufacturing loss, and the hulls and foreign matter.

IMPORTS of peanut oil, while at a peak figure of 165.4 million pounds immediately after World War I, have not since then exceeded 67 million pounds a year, and in many years have been less than 10 million pounds. The Netherlands and China have in recent years been the leading sources of imported peanut oil.

While peanuts are supposed to be native of South America, they were carried to Africa by early explorers and missionaries and reintroduced into America in the Colonial days by the slave traders. The largest commercial producer of peanuts is British India. The industry in China has been expanding and, at least until the invasion by Japan, China probably ranked with India in the production of peanuts. Large quantities of peanuts are produced in various parts of Africa. In North America, the United States is the leading producer of peanuts; a few are grown in Mexico. Production in South America is mainly in Argentina.

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Surplus Marketing Administration.

RUBBER

About 10 million seeds of the Hevea rubber tree have been planted in a dozen Central and South American republics, and research aimed at control of disease and improving yields is under way by the United States Department of Agriculture in cooperation with these Latin-American countries. Investigations of plants such as the desert shrub guayule that might be grown in the United States as a source of rubber are also in progress.

Income of Typical Dairy Farms, New York

DAIRY farmers in Central New York,¹ one of the oldest established dairy areas in the country have found their income changing materially from year to year, and in spite of increased efficiencies in organization and production, hardly maintained their economic position during the past 32 years as indicated by the purchasing power of net farm income.² From 1910 to 1935 the purchasing power of net farm income of these typical dairy farmers in central New York was below 100 percent of the 1910-14 base in 16 years, and averaged only 94 percent of 1910-14. Since 1935 their purchasing power from farm operations has been above 100 in all years and has averaged 120 percent of 1910-14. This record since 1935 has been accomplished by a combination of factors such as doing more business (milking more cows than formerly), by skillful culling and breeding for herd improvement, by increased efficiencies in feeding, more effective use of labor and equipment, a better market for their products and general increase in prices received for commodities sold.

Farming in this area is fairly specialized. Over 80 percent of the gross income is from the dairy enterprise. Dairy and poultry together usually account for almost 95 percent of the gross income. These farmers purchase between 70 and 80 percent of their concentrate feeds but are almost self-sufficing in roughage requirements. Roughages are frequently purchased but the quantity purchased is usually small. The grain-milk price ratio is therefore an important factor in this area and farmers' response to it is quite evident.

¹ Chenango, Cortland, Delaware, Herkimer, Madison, Montgomery, Oneida, Otsego, and Schoharie Counties.

² Purchasing power of net farm income is ratio expressed as a percentage of the index of net farm income and the index of prices farmers pay for commodities used for family maintenance, both based on 1910-14.

THE typical dairy farmer in this area milked about 14.3 cows during the period 1910 to 1915 and sold his milk for \$1.56 per hundredweight. He paid approximately \$29 per ton for feed grains. The price situation accompanying World War I began to set in and by 1919 milk prices had risen to \$3.40 per hundredweight. The typical dairy herd increased from 14.3 head to 15.6 during this period.

Even though the price of milk was reduced materially from 1920 to 1923 a fairly favorable grain-milk price ratio was in effect. The size of herd was maintained until 1924 when the price of milk hit a new low; the grain-milk price ratio was one of the lowest on record. The size of herd was reduced to 15 head by 1926. The price of milk began to strengthen and a favorable grain-milk price ratio was in effect for some time. The size of herd was increased to 17 head by 1930 but because of unfavorable prices of the early depression years the herd was reduced to 15.2 head by 1935. Since 1935 prices have been comparatively favorable and the size

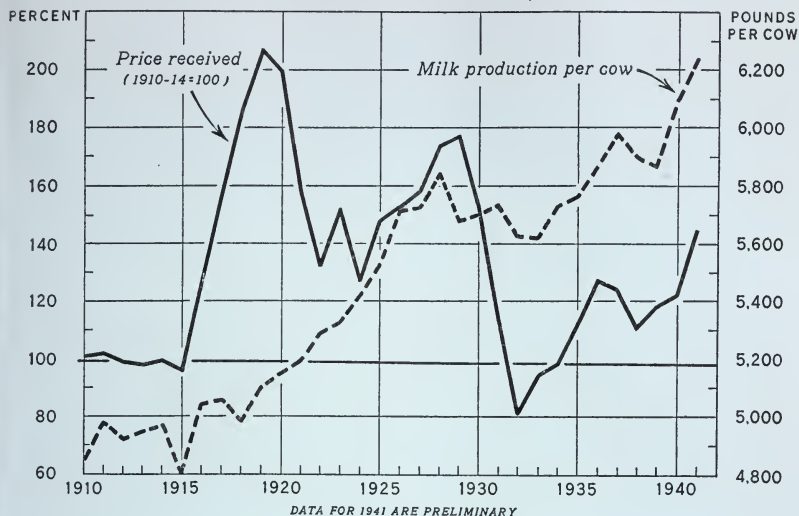
Organization of Typical Dairy Farms New York, 1937-39

	<i>Average 1937-39</i>
Land in farm, acres.....	142.1
Land cultivated, acres.....	54.0
Percentage of farm cultivated.....	38.0
Corn for silage, acres.....	6.4
Oats, acres.....	6.4
Other grains, acres.....	3.2
Hay, acres.....	36.3
Truck, acres.....	1.7
Pasture, acres.....	62.1
Woods, acres.....	20.6
Farmstead, roads and waste, acres.....	5.4
Milk cows, number.....	17.0
Milk produced per cow, pounds.....	5,914.0
Laying hens, number.....	110.0
Horses, number.....	2.5
Hogs produced, hundredweight.....	5.5

Proportion of Gross Income from Various Sources

<i>Item:</i>	<i>Percent of total</i>
Dairy products.....	68.3
Cattle and calves.....	14.5
Poultry.....	1.4
Eggs.....	10.0
Truck.....	4.8
Other.....	1.0
Total.....	100.0

POUNDS OF MILK PRODUCED PER COW, AND INDEX NUMBERS
OF PRICE RECEIVED BY TYPICAL DAIRY FARMERS.
CENTRAL NEW YORK DAIRY AREA, 1910-41



of herd has gradually increased and was slightly over 18 head in 1941.

The typical dairy farmer in this area is now feeding each dairy cow about 25 percent more grain and roughage than he was in 1910-14 but the typical dairy cow has responded with a 25 percent increase in milk production over the amount produced in 1910-14. In 1910-14 the average cow produced about 5,000 pounds of milk. Production per cow was gradually increased to slightly over 5,800 pounds in 1928. In 1928 the grain-milk price ratio broke temporarily and production per cow declined and remained around 5,650 pounds during the depression and until 1935. Since 1935 it has increased and in 1941 reached an all time high of over 6,200 pounds. This increase in production is due, perhaps, to a combination of better feeding, better management, culling and breeding.

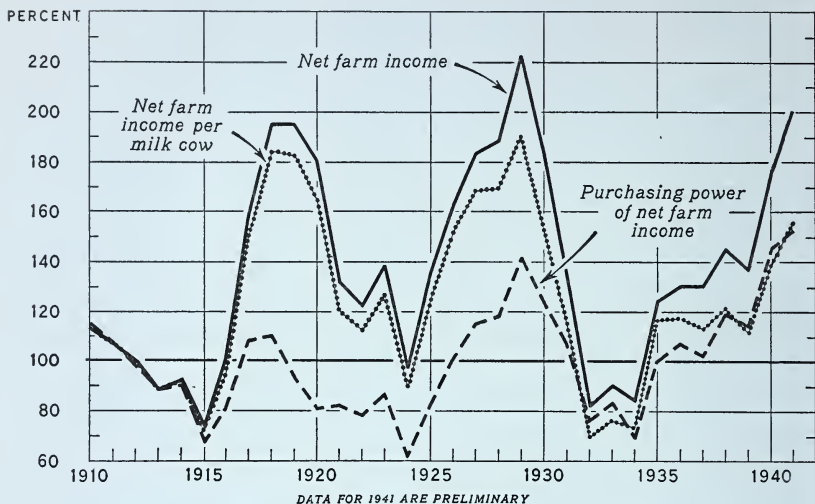
THERE has been a tendency for the typical dairy farmer in this area to acquire additional land though the increase in acreage operated has been small. Available information shows there has been a decrease in the number of farms and an increase in the size

of farm in this area in recent years. Evidently there has been some abandonment of the poorer "hill farms." The typical dairy farmer in the area now has about 18 acres more land than he had in 1910-14 but only 5 acres more land in crops. The increase in crop acres per farm has taken place since 1930. The acreage in grains on the farm has decreased and the acreage in hay and silage has increased during the past 30 years. Corn silage has increased from about 4.5 acres in 1910-14 to almost 7 in 1939-41. During this period the acres in hay have increased from about 32 to 36. The acreage in alfalfa, though still small, has more than doubled in the past 15 years. This has increased both total production and general quality of hay.

These farmers, though they have increased the number of livestock and to some extent the acres of crops, hire very little more labor than formerly. Substantial reductions have been made in the labor requirements per unit of crops and livestock; labor requirements per unit of livestock have not been reduced as much as requirements for crops. The labor requirements per acre of hay have been reduced from approximately 11 hours in 1910-14 to

TOTAL NET FARM INCOME, PURCHASING POWER OF INCOME,
AND INCOME PER MILK COW, TYPICAL DAIRY FARMS,
CENTRAL NEW YORK DAIRY AREA, 1910-41

INDEX NUMBERS (1910-14=100)



8 hours in 1935-41 and the requirements per acre of small grains have been reduced from 23 to 14 hours during the same period. During this period, the time required to care for a dairy cow was reduced from 145 to 140 hours per year. (Milk production per cow, however, was increased by 21 percent.) This reduction in labor has meant a substantial saving on these farms. The total bill for hired labor on these farms in recent years amounted to about \$225. A large proportion of this reduction in labor, particularly in crops, must be attributed to more appropriate production methods and efficient management; less than one-third of the farmers had tractors.

BETTER management, more appropriate methods of production and changes in prices have been reflected in changes in farm income throughout the years covered by this study. With the increase in demand for dairy products in World War I and the resultant high prices, the index of net farm income based on 1910-14 rose from 100 in 1916 to 195 in 1918 and 1919. The post-war depression set in and prices farmers in this area received

for products sold fell rapidly from an index of 207 in 1919 to 143 in 1921-25. Costs, however, fell less rapidly and in spite of increased production the index of net farm income fell from 195 in 1919 to 97 in 1924. Prices began to strengthen again after 1924 and production continued to increase, with the result that in 1929, farmers received the highest net farm income in the 32-year period. The financial crash came and production tapered off though it remained at a comparatively high level throughout the depression. The index of net farm income in 1932-34 averaged only 85.

During the period 1935-41 the index of prices received by typical dairy farmers in the area averaged 123, the size of dairy herd was increased 19 percent and production per cow 21 percent above 1910-14. A combination of these factors together with savings in labor have resulted in an index of net farm income of 149 during 1935-41. Much of the increase in net farm income in recent years relative to 1910-14 is attributed to an increase in the number of milk cows handled on the typical dairy farm. The size of the poultry enterprise has

been increased, but gross receipts from this enterprise seldom represent more than 10 percent of the gross farm income. Crop acres per farm have increased little.

The physical plants of these typical dairy farmers are now larger than formerly. A rough measure of where the farmers' income position would be if he had not increased his plant can

be obtained by calculating the changes in net farm income per milk cow. This is done by dividing the index of net farm income by the index of number of milk cows per farm both based on 1910-14. From 1935-41 the index of net farm income per milk cow averaged 125 compared to 149 for the index of net farm income.

WYLIE D. GOODSSELL.

Farm Income in 1941

TOTAL cash farm income from marketings and Government payments was 11.6 billion dollars in 1941. This compares with 9.1 billion in 1940, and is the largest total since 1920 when income aggregated 12.6 billion dollars. Of the indicated total for 1941, 11

billion dollars was from farm marketings, and 600 million dollars from Government payments.

Largest increases in income, 1941 compared with 1940, were from oil-bearing crops, particularly cottonseed and soybeans.

Cash Farm Income in the United States, by Commodities, Calendar years 1939-41

Commodity	1939 ¹	1940 ¹	1941 ²
Crops:	1,000 dol.	1,000 dol.	1,000 dol.
Wheat.....	432,004	447,044	710,000
Rye.....	9,016	9,519	12,000
Rice.....	31,503	38,434	50,000
Buckwheat.....	1,553	1,284	1,500
Corn.....	318,931	369,777	330,000
Oats.....	45,715	58,590	77,000
Barley.....	39,720	46,869	52,000
Grain sorghums.....	6,824	8,274	14,500
Hay.....	66,001	69,515	90,000
Cotton lint.....	550,046	573,401	930,000
Cottonseed.....	76,818	86,434	170,000
Flaxseed.....	26,426	38,359	52,000
Peanuts.....	34,748	44,824	70,000
Soybeans.....	50,871	55,765	112,000
Tobacco.....	208,597	240,369	275,000
Citrus fruits.....	128,504	130,870	152,000
Apples.....	93,843	91,417	120,000
Peaches.....	40,110	34,701	55,366
Pears.....	17,972	17,972	26,815
Grapes.....	39,045	41,301	62,316
Cherries.....	9,550	11,320	14,819
Apricots.....	10,548	5,950	9,940
Plums.....	2,854	3,567	4,532
Prunes.....	13,056	13,793	13,969
Cranberries.....	6,932	7,002	8,832
Strawberries.....	38,969	40,885	42,642
Small fruits ³	12,803	13,276	16,521
Figs.....	2,541	2,957	4,681
Olives.....	1,687	3,082	6,591
Avocados.....	1,255	1,172	1,514
Other fruits ⁴	4,330	4,291	5,927
Truck crops ⁵	372,364	397,776	513,391
Dry edible beans.....	39,098	40,323	62,000
Potatoes.....	156,339	165,062	158,000
Sweet potatoes.....	21,110	21,261	25,000
Walnuts (Persian or English).....	9,716	10,021	14,808
Almonds.....	3,971	3,240	3,840
Pecans.....	4,496	5,560	6,947
Filberts.....	818	765	1,484
Cowpeas.....	5,437	5,202	6,000
Legume and grass seeds.....	37,333	30,428	32,896
Sugar beets.....	49,436	54,749	58,405
Sugarcane for sugar.....	16,441	11,333	18,288

Commodity	1939 ¹	1940 ¹	1941 ²
Crops—Continued.	1,000 dol.	1,000 dol.	1,000 dol.
Sugarcane sirup.....	6,471	4,143	6,398
Sorgo sirup.....	3,393	3,865	3,935
Maple sugar.....	167	141	112
Maple sirup.....	3,873	3,956	3,333
Miscellaneous crops ⁶	247,800	262,096	287,698
Total crops.....	3,361,035	3,531,935	4,695,000
Livestock and livestock products:			
Cattle and calves.....	1,279,074	1,380,170	1,750,000
Hogs.....	812,003	820,802	1,300,000
Sheep and lambs.....	179,774	189,402	225,000
Chickens.....	228,390	215,278	280,000
Turkeys.....	68,125	76,345	82,000
Eggs (chicken).....	423,450	449,233	610,000
Dairy products.....	1,355,067	1,526,702	1,860,000
Wool.....	84,324	110,058	143,000
Other ⁷	56,069	53,667	55,000
Total livestock.....	4,486,276	4,821,657	6,305,000
Total crops and livestock.....	7,847,311	8,353,592	11,000,000
Government payments ⁸	807,065	765,799	600,000
Grand total.....	8,654,376	9,119,391	11,600,000

¹ Preliminary. ² Tentative. ³ Includes all berries except cranberries and strawberries. ⁴ Includes dates, kumquats, loquats, nectarines, papayas, persimmons, pineapples, pomegranates, prickly pears, and quinces, as well as apricots, apples, avocados, cherries, figs, grapes, lemons, limes, olives, prunes, plums, and pears in non-commercial States. ⁵ Includes all vegetables grown for sale except dry edible beans, potatoes, and sweetpotatoes. ⁶ Includes broomcorn, hops, popcorn, peppermint, and forest, nursery, and greenhouse products. ⁷ Includes ducks, geese, honey, horses, mules, and mohair. ⁸ Includes agricultural conservation, Sugar Act, and price adjustment payments to farmers.

Economic Trends Affecting Agriculture

Year and month	Industrial production (1935-39 =100) ¹	Income of industrial workers (1935-39 =100) ²	Cost of living (1935-39 =100) ³	Whole- sale prices of all com- modities ⁴	1910-14=100 Prices paid by farmers for commodities used in —			Farm wages	Taxes ⁵
					Living	Produc- tion	Living and pro- duction		
1925	90	126	125	151	164	147	157	176	270
1926	96	131	126	146	162	146	155	179	271
1927	95	128	124	139	159	145	153	179	277
1928	99	127	123	141	160	148	155	179	279
1929	110	134	122	139	158	147	153	180	281
1930	91	110	119	126	148	140	145	167	277
1931	75	85	109	107	126	122	124	130	253
1932	58	59	98	95	108	107	107	96	219
1933	69	61	92	96	109	108	109	85	187
1934	75	76	96	109	122	125	123	95	178
1935	87	87	98	117	124	126	125	103	180
1936	103	100	99	118	122	126	124	111	182
1937	113	117	103	126	128	135	130	126	187
1938	89	91	101	115	122	124	122	125	186
1939	108	105	99	113	120	122	121	123	190
1940	123	119	100	115	121	124	123	126	—
1941 ¹	156	162	105	127	—	—	130	147	—
1941—January	140	138	101	118	—	—	123	124	—
February	144	139	101	118	—	—	123	—	—
March	147	141	101	119	124	125	124	—	—
April	144	142	102	121	—	—	124	138	—
May	154	157	103	124	—	—	125	—	—
June	159	167	105	127	129	128	128	—	—
July	160	173	105	130	—	—	130	160	—
August	160	174	106	132	—	—	133	—	—
September	161	177	108	134	136	135	136	—	—
October	163	178	109	135	—	—	139	165	—
November	166	180	110	135	—	—	141	—	—
December ⁷	168	184	110	137	—	—	143	—	—
1942—January	—	—	—	139	—	—	146	166	—

Year and month	Index of prices received by farmers (August 1909–July 1914 = 100)							Ratio prices received to prices paid
	Grains	Cotton and cotton-seed	Fruits	Truck crops	Meat animals	Dairy products	Chickens and eggs	
1925	157	177	172	153	140	153	163	99
1926	131	122	138	143	147	152	159	94
1927	128	128	144	121	140	155	144	91
1928	130	152	176	159	151	158	153	96
1929	120	144	141	149	156	157	162	95
1930	100	102	162	140	133	137	129	87
1931	63	63	98	117	92	108	100	70
1932	44	47	82	102	63	83	82	61
1933	62	64	74	105	60	82	75	64
1934	93	99	100	103	68	95	89	73
1935	103	101	91	125	118	108	117	86
1936	108	100	100	111	121	119	115	92
1937	126	95	122	123	132	124	111	93
1938	74	70	73	101	114	109	108	78
1939	72	73	77	105	110	104	94	77
1940	85	81	79	114	108	113	96	80
1941	96	113	92	145	146	131	122	94
1941—January	84	80	78	124	128	121	100	85
February	81	80	80	156	130	118	90	84
March	84	82	83	134	129	118	90	83
April	90	88	89	161	137	121	104	89
May	93	88	89	146	138	124	107	90
June	96	107	97	146	144	126	118	92
July	98	121	93	130	154	132	127	97
August	99	128	100	133	153	135	130	98
September	106	150	89	145	166	140	141	102
October	101	144	107	164	157	145	146	100
November	103	136	98	147	151	148	157	96
December	112	138	98	162	160	148	153	100
1942—January	119	143	102	204	166	148	147	102

¹ Federal Reserve Board, adjusted for seasonal variation. Revised September 1941.

² Adjusted for seasonal variation. Revised November 1941.

³ Bureau of Labor Statistics.

⁴ Bureau of Labor Statistics index with 1926=100, divided by its 1910-14 average of 68.5.

⁵ These indexes are based on retail prices paid by farmers for commodities used in living and production reported quarterly for March, June, September, and December. The indexes for other months are interpolations between the successive quarterly indexes.

⁶ Index of farm real estate taxes per acre. Base period represents taxes levied in the calendar years 1909-13, payable mostly within the period Aug. 1, 1909–July 31, 1914.

⁷ Preliminary.

NOTE.—The index numbers of industrial production and of industrial workers' income shown above are not comparable in several respects. The production index includes only mining and manufacturing; the income index also includes transportation. The production index is based on volume only, whereas the income index is affected by wage rates as well as by time worked. There is usually a time lag between changes in volume of production and workers' income, since output can be increased or decreased to some extent without much change in the number of workers.